README FILE:

Experiment 1 part 1

Factorial:

This Java program calculates the factorial of a given number using various input methods.

Input Methods

The program supports the following input methods:

1. Command Line Arguments: Provide the number as a command line argument.

2. Scanner: Accept user input using the `Scanner` class.

3. BufferedReader: Accept user input using the `BufferedReader` class.

4. DataInputStream: Accept user input using the `DataInputStream` class.

5. Console: Accept user input using the `Console` class.

Methods:

1.main(String[] args):The main method initializes input streams and presents a menu to select the input method. It then calls respective methods based on user choice until the user chooses to exit.

2.commandLineArgsFactorial(String[] args) - Calculates the factorial using command line arguments. Validates the input and handles exceptions.

3.scannerFactorial()-Calculates the factorial using `Scanner` class for input,Handles user input and exceptions using `BufferedReader`.

4.bufferedReaderFactorial(BufferedReader br)-Calculates the factorial using `BufferedReader` for input.Handles user input and exceptions.

5.dataInputStreamFactorial(DataInputStream dis)-Calculates the factorial using `DataInputStream` for input.Handles user input and exceptions.

6.consoleFactorial(Console console)-Calculates the factorial using `Console` for input. Handles user input and exceptions.

7.calculateFactorial(int n)-Calculates the factorial of a given integer `n`.

Throws an `IllegalArgumentException` for negative numbers. Returns the factorial value as a `long`.